

## INTERNATIONAL SEARCH REPORT

International application No

PCT/US04/28889

**A CLASSIFICATION OF SUBJECT MATTER**

IPC(7) E21B 43/10

US CL 166/380, 207, 216, 217, 384

According to International Patent Classification (IPC) or to both national classification and IPC

**B FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

US 166/380, 207, 216, 217, 384 381 and 206

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
EAST**C DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X	US 2003/0024708 A1 (Ring et al ) 06 February 2003 (06 02 03), see entire document	1264, 1265, 1282, 1302, 1305, 1306, 1313, 1314, 1331, 1351, 1354, 1355
X	US 5,755,895 A (Tamehiro et al ) 26 May 1998 (26 05 98), see entire document	729, 733-735, 738-740
X	US 2,246,038 A (Graham) 17 June 1941 (17 06 41), see entire document	673, 674, 677, 680
A	US 4,888,975 A (Soward et al ) 26 December 1989 (26 12 89), see entire document	758
A	US 4,779,445 A (Rabe) 25 October 1988 (25 10 88), see entire document	758
A	US 3,805,567 A (Aguis-Sinero) 23 April 1974 (23 04 74), see entire document	758
A	US 2,919,741 A (Strock et al ) 05 January 1950 (05 01 60), see entire document	1264, 1313

☐ Further documents are listed in the continuation of Box C**D**

See patent family annex

Special categories of cited documents	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"B" earlier application or patent published on or after the international filing date	"X" document of particular relevance, the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance, the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

18 October 2005 (18 10 2005)

Name and mailing address of the ISA/US

Mail Stop PCT, Attn ISA/US  
Commissioner for Patents  
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Alexandria, Virginia 22313-1450

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Date of filing of the international search report

14 Nov 2005

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# INTERNATIONAL SEARCH REPORT

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PCT/US04/28889

## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons

- 1 ☒ **Claims Nos**  
because they relate to subject matter not required to be searched by this Authority, namely
- 2 ☒ **Claims Nos**  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically
- 3 ☐ **Claims Nos**  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6 4(a)

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows  
Please See Continuation Sheet

- 1 ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims
  - 2 ☐ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of any additional fees
  - 3 ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos
  - 4 ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims, it is covered by claims Nos
- Remark on Protest ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation
- ☐ No protest accompanied the payment of additional search fees

## INTERNATIONAL SEARCH REPORT

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### BOX III OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claims 673, 674, 677 and 680, drawn to an expandable tubular member.

Group II, claims 729, 733-735, 738-740 and 744, drawn to a method of manufacturing a tubular member.

Group III, claims 758, 760, 777, 779, 798-801, 803-805, 1233-1235, 1264, 1265, 1282, 1284, 1302-1306, 1308, 1313, 1314, 1331, 1333, 1347-1349, 1351-1355 and 1357, drawn to the apparatus and method of using the same for expanding a tubular member.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the expandable tubular member of Group I can be manufactured using a drawn over mandrel process.

The inventions listed as Groups I and III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the expandable tubular member of Group I can be manufactured using an apparatus for cold-rolling and seam welding sheet stock.

The inventions listed as Groups II and III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the method of manufacturing an expandable tubular member of Group II can be performed without a swaging operation.